

In The Claims

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) Cooling device for a fuel-recirculation circuit from an injection system to a tank of a motor vehicle, which has a first opening and a second opening for connection to said recirculation circuit, and which comprises:

a pipe having a side wall and a finned radiant body in a relationship of heat exchange with said pipe,

end couplings connected hermetically to said pipe, the end couplings having a substantially conical shape,

an elongated body housed in a through cavity defined by said pipe and having at least a ~~tapered~~ conical end portion longitudinally spaced from said couplings, and

projections radially interposed between said pipe and said elongated body to define internal passages traversed by said fuel,

characterized in that said elongated body is made of a polymeric material and is interference fitted in said through cavity, in that said pipe is made of a metal material having a different coefficient of thermal expansion than the polymeric material, in that said projections are integrally formed on at least one of said pipe and said elongated body, and in that said end couplings are connected to said pipe only.

2. (Previously Presented) The cooling device according to Claim 1, characterized in that said radiant body comprises a plurality of fins that are longitudinal with respect to said pipe.

3. (Previously Presented) The cooling device according to Claim 2, characterized in that said longitudinal fins are arranged in spoke-like fashion with respect to said pipe.

4. (Previously Presented) The cooling device according to Claim 1, characterized in that said elongated body is coaxial to said pipe.

5. (Canceled)

6. (Previously Presented) The cooling device according to Claim 1, characterized in that said elongated body carries said projections in contact with said side wall of said pipe, thus defining said internal passages.

7. (Previously Presented) The cooling device according to Claim 1, characterized in that said pipe carries said projections in contact with said elongated body, thus defining said internal passages.

8. (Previously Presented) The cooling device according to Claim 1, characterized in that said elongated body has a circular cross section.

9. (Previously Presented) The cooling device according to Claim 1, characterized in that said projections are helical.

10. (Previously Presented) The cooling device according to Claim 1, characterized in that said projections are longitudinal.

11. (Previously Presented) The cooling device according to Claim 1, characterized in that said at least one coupling comprises a substantially conical portion housing a respective end.

12. (Canceled)